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AMENDMENTS TO THE CLAIMS:

Listing of Claims:

This listing of claims will replace all prior versions of the claims and listing of the claims in the application:

(Currently Amended) A method for treating a subject for a DTMR associated with splicing of nuclear RNA, comprising: administering to said subject an effective amount of a tetracycline compound of formula (I):

wherein

 $R^2, R^2, R^4, and \, R^{4^*} \ are each independently hydrogen, alkyl, alkenyl, alkynyl. \\ alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, aryl, heterocyclic, heteroaromatic or a prodrug moiety;$

R³, R¹⁰, R¹¹ and R¹² are each hydrogen, alkyl, alkenyl, alkynyl, substituted carbonyl, or a pro-drug moiety;

R⁴ is NR⁴'R⁴", alkyl, alkenyl, alkynyl, hydroxyl, halogen, or hydrogen;

R⁵ is hydroxyl, hydrogen, thiol, alkanoyl, aroyl, alkaroyl, aryl, heteroaromatic. alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, arylalkyl, alkyl carbonyloxy, or aryl carbonyloxy;

R⁶ and R^{6'} are each independently hydrogen, methylene, absent, hydroxyl, halogen, thiol, alkyl, alkenyl, alkynyl, aryl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, or an arylalkyl;

 R^7 is hydrogen, hydroxyl, halogen, thiol, nitro, alkyl, alkenyl, alkynyl, aryl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, arylalkyl, amino, arylalkenyl, arylalkynyl, acyl, aminoalkyl, heterocyclic, thionitroso, or $-(CH_2)_0.3NR^{7c}C(=W^*)WR^{7a}$;

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 R^8 is hydrogen, hydroxyl, halogen, thiol, nitro, alkyl, alkenyl, alkynyl, aryl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, amino, arylalkenyl, arylalkynyl, acyl, aminoalkyl, heterocyclic, thionitroso, or $-(CH_2)_{0.3}NR^{8}C(=E')ER^{8a}$;

 $R^9 \ is \ hydrogen, \ hydroxyl, \ halogen, \ thiol, \ nitro, \ alkyl, \ alkenyl, \ alkynyl, \ aryl, \ alkoxy, \ alkylthio, \ alkylsulfinyl, \ alkylsulfinyl, \ arylalkyl, \ amino, \ arylalkenyl, \ arylalkynyl, \ acyl, \ aminoalkyl, \ heterocyclic, \ thionitroso, \ or -(CH₂)<math>_{0.3}$ NR $^{\circ}$ C(=Z')ZR $^{\circ}$ z;

 $R^{7a}, R^{7b}, R^{7c}, R^{7d}, R^{7e}, R^{7f}, R^{8a}, R^{8b}, R^{8c}, R^{8d}, R^{8c}, R^{8f}, R^{9}, R^{9b}, R^{9c}, R^{9d}, R^{9d}, R^{9c}, R^{9d}, R^{9d$

R¹³ is hydrogen, hydroxy, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, aryl, alkylsulfinyl, alkylsulfonyl, alkylsulfonyl,

E is CR8dR8e S NR8b or O:

E' is O, NR8f, or S:

W is CR7dR7e, S, NR7b or O:

W' is O, NR7f, or S;

X is CHC(R¹³Y'Y),-C=CR¹³Y, CR⁶'R⁶, S, NR⁶, or O;

Y' and Y are each independently hydrogen, halogen, hydroxyl, cyano, sulfhydryl, amino, alkyl, alkenyl, alkynyl, alkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, or an arylalkyl;

Z' is O, S, or NR^{9f}, andor a pharmaceutically acceptable salts<u>salt</u>, esters<u>ester</u> andor enantiomersenantiomer thereof, with the proviso that said tetracycline compound is not tetracycline;

such that said DTMR associated with splicing of nuclear RNA is treated, wherein said DTMR associated with splicing of nuclear RNA is spinal muscular atrophy, and further wherein said effective amount is effective to modulate splicing of said subject's nuclear RNA.

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2.-36. (Canceled)

37. (Previously Presented) The method of claim 1, wherein R^2 , R^2 , R^8 , R^{11} , and R^{12} are each hydrogen, X is CR^6R^6 , and R^4 is NR^4R^4 , wherein R^4 and R^{47} are each methyl.

- 38. (Original) The method of claim 37, wherein R⁹ is hydrogen.
- 39. (Original) The method of claim 38, wherein R⁷ is substituted or unsubstituted aryl.
- 40. (Original) The method of claim 39, wherein R⁷ is substituted or unsubstituted phenyl.
- 41. (Original) The method of claim 40, wherein \mathbb{R}^7 is substituted with one or more substituents.
- 42. (Original) The method of claim 41, wherein said substituents are each independently alkyl, alkenyl, alkynyl, halogen, hydroxyl, alkylcarbonyloxy, arylcarbonyloxy, alkoxycarbonyloxy, aryloxycarbonyloxy, carboxylate, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl, alkylthiocarbonyl, alkoxyl, phosphate, phosphonato, phosphinato, cyano, amino, acylamino, amidino, imino, sulfhydryl, alkylthio, arylthio, thiocarboxylate, sulfates, alkylsulfinyl, sulfonato, sulfamoyl, sulfonamido, nitro, trifluoromethyl, cyano, azido, heterocyclyl, alkylaryl, aryl or heterocyclic moiety.

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43. (Original) The method of claim 38, wherein R⁷ is substituted or unsubstituted alkenyl.

- 44. (Original) The method of claim 37, wherein R⁷ is substituted or unsubstituted heteroaryl and R⁹ is alkyl.
 - 45. (Original) The method of claim 36, wherein R⁷ is dialkylamino.
 - 46. (Original) The method of claim 45, wherein R⁹ is alkylamino.
- 47. (Original) The method of claim 45, wherein R^9 is $-NR^{9c}C(=Z')ZR^{9a}$, wherein R^{9c} is hydrogen, Z' is nitrogen or oxygen, Z is NH, and R^{9a} is aryl or aralkyl.

48.-53. (Canceled)

54. (Currently Amended)

The method of claim 1, A method for treating a subject for a DTMR associated with splicing of nuclear RNA, comprising; administering to said subject an effective amount of a tetracycline compound; wherein said tetracycline compound is a tetracycline compound is a tetracycline compound selected from the group consisting of:

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$$\begin{array}{c} CH_3 \underset{\longleftarrow}{H} \stackrel{\square}{\longrightarrow} CH_3 \underset{\longleftarrow}{\longrightarrow} CH$$

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$$\bigvee_{N}^{N} \bigvee_{OH}^{OH} \bigvee_{OH}$$

$$\begin{array}{c|c} & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & \\ & & \\$$

$$\begin{array}{c|c} & & & \\ &$$

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and pharmaceutically acceptable salts, esters and enantiomers thereof; such that said DTMR associated with splicing of nuclear RNA is treated, wherein said DTMR associated with splicing of nuclear RNA is spinal muscular atrophy, and further wherein said effective amount is effective to modulate splicing of said subject's nuclear RNA.

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55. (Canceled)

56. (Canceled)

57. (Currently Amended) The method of claim 1, wherein said tetracycline compound is:

58. (Canceled)

- (Previously Presented) The method of claim 1, wherein said modulation of splicing increases splicing of RNA.
- (Previously Presented) The method of claim 1, wherein said modulation of splicing decreases splicing of RNA.

61. (Canceled)

- (Previously Presented) The method of claim 1, wherein said subject is a mammal.
- 63. (Previously Presented) The method of claim 62, wherein said mammal is a human.

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64. (Previously Presented) The method of claim 1, wherein said modulation of splicing is activation of cryptic splice sites, silencing of consensus splice sites, silencing of exonic or intronic splicing enhancers (ESEs or ISEs), silencing of exonic or inronic splicing silencers (ESEs or ISSs), alteration of the binding or a component of the splicing machinery to the RNA, or the affecting of intermolecular interactions between components of the splicing machinery.

65. (Currently Amended) The method of claim 1, wherein said tetracycline compound is:

, andor a pharmaceutically acceptable saltssalt

thereof.